

IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A computer-implemented method for invoking a sequence of operations, the method comprising:

a first application displaying a graphical user interface (GUI) of a first application, wherein the graphical user interface provides GUI access to a set of operations;

~~receiving user input to the graphical user interface to specify the sequence of operations; and~~

the first application creating the sequence, wherein creating the sequence comprises including a plurality of operations in the sequence in response to user input selecting each operation in the plurality of operations from the GUI;

the first application interactively displaying a visual indication of results of performing the sequence while the sequence is being created, wherein the visual indication enables a user to evaluate the results of performing the sequence, wherein interactively displaying the visual indication comprises:

for each operation included in the sequence, updating the displayed visual indication in response to including the operation in the sequence in order to visually indicate a change in the results of performing the sequence, wherein the change is caused by including the operation in the sequence, wherein updating the displayed visual indication provides interactive visual feedback to the user indicating the change caused by including the operation in the sequence;

wherein the method further comprises the first application receiving a request to invoke [[invoking]] execution of the [[specified]] sequence [[of operations]] from a second program external to the first application; and

the first application executing the sequence in response to the request from the second program, wherein the first application executing the sequence comprises the first

application invoking execution of software routines to perform the plurality of operations in the sequence.

2. (Canceled)

3. (Currently Amended) The method of claim 1, further comprising:
the first application storing information representing the ~~[[specified]]~~ sequence of operations in a data structure ~~in response to said receiving user input specifying the sequence of operations.~~

4. (Currently Amended) The method of claim 3,
wherein the information representing the sequence of operations in the data structure does not comprise ~~[[programming language]]~~ program code.

5. (Currently Amended) The method of claim 3, ~~wherein, in response to said invoking execution of the specified sequence of operations from a second program external to the first application, the first application is operable to:~~ wherein the first application executing the sequence further comprises:

the first application accessing ~~[[access]]~~ the ~~information representing the sequence of operations data structure~~ to determine ~~program instructions corresponding to the plurality of operations in the sequence; and~~

the first application determining the software routines to invoke in order to perform the plurality of operations in the sequence.

~~execute the program instructions.~~

6. (Currently Amended) The method of claim ~~[[3]]~~ 1, further comprising:
~~wherein said receiving user input to the graphical user interface to specify the sequence of operations comprises~~ the first application receiving user input ~~to the graphical user interface specifying a first parameter value~~ ~~[[values]]~~ for ~~one or more operations~~ a first operation in the sequence;

wherein said first application invoking execution of the software routines to perform the plurality of operations in the sequence comprises the first application invoking execution of a first software routine to perform the first operation, wherein the first application passes the first parameter value to the first software routine.

~~wherein said storing information representing the specified sequence of operations comprises storing the parameter values;~~

~~wherein the method further comprises executing software routines corresponding to operations in the sequence in response to said invoking execution of the specified sequence of operations;~~

~~wherein said executing comprises passing the parameter values to the software routines.~~

7. (Currently Amended) The method of claim 1, further comprising:
creating the second program, wherein the second program is operable to request the first application to invoke execution of the [[specified]] sequence of operations during execution of the second program.

8. (Currently Amended) The method of claim 7,
wherein said creating the second program comprises including source code in the second program for requesting the first application to invoke [[invoking]] execution of the sequence of operations.

9. (Currently Amended) The method of claim 8,
wherein the second program is a graphical program, wherein said including source code in the second program for requesting the first application to invoke [[invoking]] execution of the sequence of operations comprises:

including a first node in the graphical program, wherein the first node is operable to call the first application; and

configuring the first node with information identifying the sequence of operations.

10. (Currently Amended) The method of claim 1, wherein the second program is a graphical program, the method further comprising:

creating the graphical program, wherein the graphical program includes a node which is operable to request the first application to invoke execution of the [[specified]] sequence of operations during execution of the graphical program.

11. (Original) The method of claim 10,

wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

12. (Original) The method of claim 10,

wherein the graphical program is a graphical data flow program.

13. (Currently Amended) The method of claim 1, wherein the second program is a text-based program, the method further comprising:

creating the text-based program in a text-based programming environment, wherein the text-based program includes a call which is operable to request the first application to invoke execution of the [[specified]] sequence of operations during execution of the text-based program.

14. (Currently Amended) The method of claim 1, further comprising:

executing the second program;

wherein said executing the second program comprises the second program requesting the first application to invoke execution of [[execute]] the sequence of operations.

15. (Currently Amended) The method of claim 14, [[further comprising:]]

[[the]] wherein said first application executing the sequence [[of operations]] comprises the first application executing the sequence synchronously with respect to the request received from the second program.

16. (Currently Amended) The method of claim 14, ~~[[further comprising:]]~~
~~[[the]]~~ wherein said first application executing the sequence ~~[[of operations]]~~
comprises the first application executing the sequence asynchronously with respect to the
request received from the second program.

17. (Currently Amended) The method of claim 1,
wherein said first application creating the sequence ~~comprises the first application~~
~~creating the sequence without receiving user input to the graphical user interface to~~
~~specify the sequence of operations does not include~~ receiving user input specifying
~~[[programming language]]~~ program code to implement the ~~[[sequence]]~~ plurality of
operations in the sequence.

18. (Currently Amended) The method of claim 1, further comprising:
the first application configuring a first operation in the sequence in response to
user input specifying configuration information for the first operation, wherein
configuring the first operation changes a function performed by the first operation; and
the first application updating the displayed visual indication in response to the
user input specifying the configuration information for the first operation in order to
visually indicate the change in the function performed by the first operation.

~~receiving user input to the graphical user interface for configuring one or more of~~
~~the operations in the sequence;~~

~~wherein, for each operation, said configuring the operation affects an action~~
~~which the operation is operable to perform.~~

19. (Currently Amended) The method of claim 18,
wherein ~~[[said receiving]]~~ the user input specifying the configuration information
for the first operation ~~to the graphical user interface for configuring one or more of the~~
~~operations in the sequence~~ does not include ~~[[receiving]]~~ user input specifying
~~[[programming language]]~~ program code ~~to configure the operations.~~

20. (Currently Amended) The method of claim 18, further comprising:

~~for each operation to be configured, the first application displaying a graphical panel including graphical user interface elements for setting properties of the first operation, wherein the [[and receiving]] user input specifying the configuration information for the first operation comprises user input to the graphical panel to set one or more properties of the first operation.~~

21. (Currently Amended) The method of claim 1,

wherein the ~~graphical user interface provides GUI access to a set of operations to which the graphical user interface provides GUI access [[that]]~~ includes one or more of: one or more motion control operations, one or more machine vision operations, [[and]] and/or one or more [[DAQ]] Data Acquisition (DAQ) operations;

wherein said ~~receiving user input to the graphical user interface to specify including the plurality of operations in the sequence of operations comprises receiving in response to the user input selecting each operation in the plurality of operations from the GUI comprises to the graphical user interface to specify a sequence of operations including one or more of the following in the sequence: one or more motion control operations, one or more machine vision operations, [[and]] and/or one or more DAQ operations.~~

22. (Currently Amended) The method of claim 1,

wherein the ~~graphical user interface provides GUI access to a set of operations to which the graphical user interface provides GUI access [[that]]~~ includes two or more of: one or more motion control operations, one or more machine vision operations, [[and]] and/or one or more [[DAQ]] Data Acquisition (DAQ) operations;

wherein said ~~receiving user input to the graphical user interface to specify including the plurality of operations in the sequence of operations comprises receiving in response to the user input selecting each operation in the plurality of operations from the GUI comprises to the graphical user interface to specify a sequence of operations including two or more of the following in the sequence: one or more motion control operations, one or more machine vision operations, [[and]] and/or one or more DAQ operations.~~

23. (Currently Amended) The method of claim 1,
wherein the ~~graphical user interface provides GUI access to a set of operations to~~
which the graphical user interface provides GUI access ~~[[that]]~~ includes one or more
motion control operations, one or more machine vision operations, and one or more
[[DAQ]] Data Acquisition (DAQ) operations;

wherein said ~~receiving user input to the graphical user interface to specify~~
including the plurality of operations in the sequence of operations comprises receiving in
response to the user input selecting each operation in the plurality of operations from the
GUI comprises ~~to the graphical user interface to specify a sequence of operations~~
including at least one motion control operation, at least one machine vision operation,
and at least one DAQ operation in the sequence.

24. (Original) The method of claim 1,
wherein the sequence of operations is operable during execution to perform one or
more of:

- control motion of a device;
- analyze acquired images; and
- acquire measurement data.

25. (Original) The method of claim 1,
wherein the sequence of operations is operable during execution to perform two
or more of:

- control motion of a device;
- analyze acquired images; and
- acquire measurement data.

26. (Original) The method of claim 1,
wherein the sequence of operations is operable during execution to:

- control motion of a device;
- analyze acquired images; and

acquire measurement data.

27. (Original) The method of claim 1,
wherein the sequence of operations is operable during execution to:
control a motion control device to move an object;
control an image acquisition device to acquire one or more images of the
object; and
control a data acquisition device to acquire measurement data of the
object.

28. (Currently Amended) A computer-implemented method for invoking a
sequence of operations that includes motion control, machine vision, and [[data
acquisition]] Data Acquisition (DAQ) functionality, the method comprising:

a first application displaying a graphical user interface (GUI) ~~of a first
application~~, wherein the graphical user interface provides GUI access to a set of
operations, wherein the set of operations includes one or more motion control operations,
one or more machine vision operations, and one or more [[DAQ]] Data Acquisition
(DAQ) operations;

~~receiving user input to the graphical user interface specifying the sequence of
operations, wherein the specified sequence of operations includes at least one motion
control operation, at least one machine vision operation, and at least one DAQ operation;~~
and

the first application creating the sequence, wherein creating the sequence
comprises including a plurality of operations in the sequence in response to user input
selecting each operation in the plurality of operations from the GUI, wherein the plurality
of operations includes at least one motion control operation, at least one machine vision
operation, and at least one DAQ operation;

the first application interactively displaying a visual indication of results of
performing the sequence while the sequence is being created, wherein the visual

indication enables a user to evaluate the results of performing the sequence, wherein interactively displaying the visual indication comprises:

for each operation included in the sequence, updating the displayed visual indication in response to including the operation in the sequence in order to visually indicate a change in the results of performing the sequence, wherein the change is caused by including the operation in the sequence, wherein updating the displayed visual indication provides interactive visual feedback to the user indicating the change caused by including the operation in the sequence;

wherein the method further comprises the first application receiving a request to invoke [[invoking]] execution of the [[specified]] sequence [[of operations]] from a second program external to the first application; and

the first application executing the sequence in response to the request from the second program, wherein the first application executing the sequence comprises the first application invoking execution of software routines to perform the plurality of operations in the sequence.

29. (Canceled)

30. (Currently Amended) The method of claim 28, further comprising:

the first application storing information representing the [[specified]] sequence of operations in a data structure in response to said receiving user input specifying the sequence of operations.

31. (Currently Amended) The method of claim 30,

wherein the information representing the sequence of operations in the data structure does not comprise [[programming language]] program code.

32. (Currently Amended) The method of claim 30, ~~wherein, in response to said invoking execution of the specified sequence of operations from a second program external to the first application, the first application is operable to:~~ wherein the first application executing the sequence further comprises:

the first application accessing [[access]] the information representing the sequence of operations data structure to determine program instructions corresponding to the plurality of operations in the sequence; and

the first application determining the software routines to invoke in order to perform the plurality of operations in the sequence.

~~execute the program instructions.~~

33. (Currently Amended) The method of claim 28, further comprising:

creating the second program, wherein the second program is operable to request the first application to invoke execution of the [[specified]] sequence of operations during execution of the second program.

34. (Currently Amended) The method of claim 33,

wherein said creating the second program comprises including source code in the second program for requesting the first application to invoke [[invoking]] execution of the sequence of operations.

35. (Currently Amended) The method of claim 34,

wherein the second program is a graphical program, wherein said including source code in the second program for requesting the first application to invoke [[invoking]] execution of the sequence of operations comprises:

including a first node in the graphical program, wherein the first node is operable to call the first application; and

configuring the first node with information identifying the sequence of operations.

36. (Currently Amended) The method of claim 28, wherein the second program is a graphical program, the method further comprising:

creating the graphical program, wherein the graphical program includes a node which is operable to request the first application to invoke execution of the [[specified]] sequence of operations during execution of the graphical program.

37. (Currently Amended) The method of claim 28, further comprising:
executing the second program;
wherein said executing the second program comprises the second program requesting the first application to invoke execution of ~~[[execute]]~~ the sequence of operations.

38. (Currently Amended) The method of claim 28,
wherein said first application creating the sequence comprises the first application creating the sequence without receiving user input to the graphical user interface ~~specifying the sequence of operations does not include~~ receiving user input specifying ~~[[programming language]]~~ program code to implement the ~~[[sequence]]~~ plurality of operations in the sequence.

39. (Original) The method of claim 28,
wherein the sequence of operations is operable during execution to perform one or more of:

- control motion of a device;
- analyze acquired images; and
- acquire measurement data.

40. (Original) The method of claim 28,
wherein the sequence of operations is operable during execution to perform two or more of:

- control motion of a device;
- analyze acquired images; and
- acquire measurement data.

41. (Original) The method of claim 28,
wherein the sequence of operations is operable during execution to:

- control motion of a device;
- analyze acquired images; and

acquire measurement data.

42. (Original) The method of claim 28,
wherein the sequence of operations is operable during execution to:
control a motion control device to move an object;
control an image acquisition device to acquire one or more images of the
object; and
control a data acquisition device to acquire measurement data of the
object.

43. (Currently Amended) A computer-implemented method for executing a
sequence of operations, the method comprising:

a first application displaying a graphical user interface (GUI) of a first
application, wherein the graphical user interface provides GUI access to a set of
operations;

~~receiving user input to the graphical user interface specifying the sequence of
operations;~~

the first application creating the sequence, wherein creating the sequence
comprises including a plurality of operations in the sequence in response to user input
selecting each operation in the plurality of operations from the GUI;

the first application interactively displaying a visual indication of results of
performing the sequence while the sequence is being created, wherein the visual
indication enables a user to evaluate the results of performing the sequence, wherein
interactively displaying the visual indication comprises:

for each operation included in the sequence, updating the displayed visual
indication in response to including the operation in the sequence in order to visually
indicate a change in the results of performing the sequence, wherein the change is caused
by including the operation in the sequence, wherein updating the displayed visual
indication provides interactive visual feedback to the user indicating the change caused
by including the operation in the sequence;

wherein the method further comprises creating a program, wherein the program is external to the first application, wherein the program does not include program code implementing the sequence of operations, wherein the program is configured to invoke includes program code for invoking execution of the [[specified]] sequence of operations during execution of the program; and

executing the program [[external]] externally to the first application, wherein said executing includes invoking the program executes to invoke execution of the [[specified]] sequence of operations.

44. (Currently Amended) The method of claim 43, ~~further comprising:~~

[[executing]] wherein the program code for invoking execution of the sequence of operations comprises program code for requesting [[under control of]] the first application [[in response]] to [[said invoking]] invoke execution of the sequence of operations, wherein [[from]] the program executes to request the first application to invoke execution of the sequence of operations.

45. (Currently Amended) A computer-implemented method for executing a sequence of operations that includes motion control, machine vision, and [[data acquisition]] Data Acquisition (DAQ) functionality, the method comprising:

a first application displaying a graphical user interface (GUI) of a first application, wherein the graphical user interface provides GUI access to a set of operations, wherein the set of operations includes one or more motion control operations, one or more machine vision operations, and one or more [[DAQ]] Data Acquisition (DAQ) operations;

receiving user input to the graphical user interface specifying the sequence of operations, wherein the specified sequence of operations implements at least one motion control operation, at least one machine vision operation, and at least one DAQ operation;

the first application creating the sequence, wherein creating the sequence comprises including a plurality of operations in the sequence in response to user input selecting each operation in the plurality of operations from the GUI, wherein the plurality

of operations includes at least one motion control operation, at least one machine vision operation, and at least one DAQ operation;

the first application interactively displaying a visual indication of results of performing the sequence while the sequence is being created, wherein the visual indication enables a user to evaluate the results of performing the sequence, wherein interactively displaying the visual indication comprises:

for each operation included in the sequence, updating the displayed visual indication in response to including the operation in the sequence in order to visually indicate a change in the results of performing the sequence, wherein the change is caused by including the operation in the sequence, wherein updating the displayed visual indication provides interactive visual feedback to the user indicating the change caused by including the operation in the sequence;

wherein the method further comprises creating a program, wherein the program is external to the first application, wherein the program does not include program code implementing the sequence of operations, wherein the program is configured to invoke includes program code for invoking execution of the [[specified]] sequence of operations during execution of the program; and

executing the program [[external]] externally to the first application, wherein said executing includes invoking the program executes to invoke execution of the [[specified]] sequence of operations.

46. (Currently Amended) The method of claim 45, ~~further comprising:~~

[[executing]] wherein the program code for invoking execution of the sequence of operations comprises program code for requesting [[under control of]] the first application [[in response]] to [[said invoking]] invoke execution of the sequence of operations, wherein [[from]] the program executes to request the first application to invoke execution of the sequence of operations.

47. (Currently Amended) A computer-implemented method for executing a sequence of operations, the method comprising:

a prototyping application displaying a graphical user interface (GUI) of a
~~prototyping application~~, wherein the graphical user interface provides GUI access to a
set of operations;

~~receiving user input to the graphical user interface specifying the sequence of~~
~~operations;~~

the prototyping application creating the sequence, wherein creating the sequence
comprises including a plurality of operations in the sequence in response to user input
selecting each operation in the plurality of operations from the GUI;

the prototyping application interactively displaying a visual indication of results
of performing the sequence while the sequence is being created, wherein the visual
indication enables a user to evaluate the results of performing the sequence, wherein
interactively displaying the visual indication comprises:

for each operation included in the sequence, updating the displayed visual
indication in response to including the operation in the sequence in order to visually
indicate a change in the results of performing the sequence, wherein the change is caused
by including the operation in the sequence, wherein updating the displayed visual
indication provides interactive visual feedback to the user indicating the change caused
by including the operation in the sequence;

wherein the method further comprises creating a software program using an
application development environment application, wherein the application development
environment application is different from the prototyping application, wherein the
software program is configured to request the prototyping application to [[execute]]
invoke execution of the [[specified]] sequence of operations during execution of the
software program; and

executing the software program [[independent]] independently of the prototyping
application, wherein ~~said executing includes requesting the software program executes to~~
request the prototyping application to invoke execution of the [[specified]] sequence of
operations.

48. (Original) The method of claim 47, further comprising:

the prototyping application executing the sequence of operations under control of the prototyping application in response to the software program requesting the prototyping application to invoke execution of the sequence of operations, wherein the prototyping application executing the sequence of operations comprises the prototyping application invoking execution of software routines to perform the plurality of operations in the sequence of operations.

49. (Currently Amended) A computer-implemented method for invoking a sequence of operations, the method comprising:

~~receiving user input to a first application specifying a desired sequence of operations;~~

a first application creating the sequence, wherein creating the sequence comprises including a plurality of operations in the sequence in response to user input specifying each operation in the plurality of operations;

the first application recording the specified sequence of operations in a data structure maintained by the first application;

the first application interactively displaying a visual indication of results of performing the sequence while the sequence is being created, wherein the visual indication enables a user to evaluate the results of performing the sequence, wherein interactively displaying the visual indication comprises:

for each operation included in the sequence, updating the displayed visual indication in response to including the operation in the sequence in order to visually indicate a change in the results of performing the sequence, wherein the change is caused by including the operation in the sequence, wherein updating the displayed visual indication provides interactive visual feedback to the user indicating the change caused by including the operation in the sequence;

wherein the method further comprises creating an application program, wherein the application program is configured to request the first application to invoke the specified sequence of operations during execution of the application program; and

executing the application program ~~[[external]]~~ externally to the first application, wherein ~~said executing includes invoking the application program executes to request the first application to invoke~~ execution of the specified sequence of operations.

50. (Currently Amended) The method of claim 49, wherein ~~said receiving user input to the first application specifying the desired sequence of operations comprises receiving user input to the first application specifying a sequence~~ the plurality of operations included in the sequence ~~[[that]]~~ includes at least one motion control operation, at least one machine vision operation, and at least one DAQ operation.

51. (Currently Amended) The method of claim 49, further comprising: the first application displaying a graphical user interface (GUI) ~~of the first application~~, wherein the graphical user interface provides GUI access to a set of operations;

wherein the user input specifying each operation in the plurality of operations is received to the GUI.

52. (Currently Amended) A computer-implemented method for invoking a prototype, the method comprising:

a first application displaying a graphical user interface (GUI) ~~of a first application~~, wherein the graphical user interface provides GUI access to a set of operations;

~~receiving user input to the graphical user interface specifying a desired sequence of operations, wherein the specified sequence of operations comprises the prototype; and~~

the first application creating the prototype, wherein creating the prototype comprises including a plurality of operations in the prototype in response to user input selecting each operation in the plurality of operations from the GUI;

the first application interactively displaying a visual indication of results of executing the prototype while the prototype is being created, wherein the visual

indication enables a user to evaluate the results of executing the prototype, wherein interactively displaying the visual indication comprises:

for each operation included in the prototype, updating the displayed visual indication in response to including the operation in the prototype in order to visually indicate a change in the results of executing the prototype, wherein the change is caused by including the operation in the prototype, wherein updating the displayed visual indication provides interactive visual feedback to the user indicating the change caused by including the operation in the prototype;

wherein the method further comprises the first application invoking execution of the prototype in response to a request received from a second program external to the first application.

53. (Currently Amended) A computer-implemented method for invoking a prototype that includes motion control, machine vision, and [[data acquisition]] Data Acquisition (DAQ) functionality, the method comprising:

a first application displaying a graphical user interface (GUI) of a first application, wherein the graphical user interface provides GUI access to a set of operations, wherein the set of operations includes one or more motion control operations, one or more machine vision operations, and one or more DAQ operations;

receiving user input to the graphical user interface specifying a desired sequence of operations, wherein the specified sequence of operations implements at least one motion control operation, at least one machine vision operation, and at least one DAQ operation, wherein the specified sequence of operations comprises the prototype; and

the first application creating the prototype, wherein creating the prototype comprises including a plurality of operations in the prototype in response to user input selecting each operation in the plurality of operations from the GUI, wherein the plurality of operations includes at least one motion control operation, at least one machine vision operation, and at least one DAQ operation;

the first application interactively displaying a visual indication of results of executing the prototype while the prototype is being created, wherein the visual

indication enables a user to evaluate the results of executing the prototype, wherein interactively displaying the visual indication comprises:

for each operation included in the prototype, updating the displayed visual indication in response to including the operation in the prototype in order to visually indicate a change in the results of executing the prototype, wherein the change is caused by including the operation in the prototype, wherein updating the displayed visual indication provides interactive visual feedback to the user indicating the change caused by including the operation in the prototype;

wherein the method further comprises the first application invoking execution of the prototype in response to a request received from a second program external to the first application.

54. (Currently Amended) A computer-readable memory medium ~~for invoking a sequence of operations, the memory medium~~ comprising program instructions of a first application, wherein the program instructions are executable to:

display a graphical user interface (GUI) of [[a]] the first application, wherein the graphical user interface provides GUI access to a set of operations;

~~receive user input to the graphical user interface specifying the sequence of operations; and~~

create the sequence, wherein creating the sequence comprises including a plurality of operations in the sequence in response to user input selecting each operation in the plurality of operations from the GUI;

interactively display a visual indication of results of performing the sequence while the sequence is being created, wherein the visual indication enables a user to evaluate the results of performing the sequence, wherein interactively displaying the visual indication comprises:

for each operation included in the sequence, updating the displayed visual indication in response to including the operation in the sequence in order to visually indicate a change in the results of performing the sequence, wherein the change is caused by including the operation in the sequence, wherein updating the displayed visual

indication provides interactive visual feedback to the user indicating the change caused by including the operation in the sequence;

wherein the program instructions of the first application are further executable to invoke execution of [[execute]] the [[specified]] sequence of operations in response to a request received from a second program external to the first application.

55. (Currently Amended) The computer-readable memory medium of claim 54, wherein the set of operations includes one or more motion control operations, one or more machine vision operations, and one or more DAQ operations;

wherein the [[specified sequence]] plurality of operations includes at least one motion control operation, at least one machine vision operation, and at least one DAQ operation;

wherein [[said executing]] execution of the [[specified]] sequence of operations [[comprises executing]] is invoked to perform the at least one motion control operation, at least one machine vision operation, and at least one DAQ operation.

56. (Currently Amended) A system for invoking a sequence of operations, the system comprising:

a processor;

a memory storing program instructions associated with a first application and program instructions associated with a second program;

a display device;

wherein the processor is operable to execute the program instructions associated with the first application to:

display a graphical user interface (GUI) for the first application on the display device, wherein the graphical user interface provides GUI access to a set of operations;

create the sequence, wherein creating the sequence comprises including a plurality of operations in the sequence in response to user input selecting each operation in the plurality of operations from the GUI;

interactively display a visual indication of results of performing the sequence while the sequence is being created, wherein the visual indication enables a user to

evaluate the results of performing the sequence, wherein interactively displaying the visual indication comprises:

for each operation included in the sequence, updating the displayed visual indication in response to including the operation in the sequence in order to visually indicate a change in the results of performing the sequence, wherein the change is caused by including the operation in the sequence, wherein updating the displayed visual indication provides interactive visual feedback to the user indicating the change caused by including the operation in the sequence;

~~receive user input to the graphical user interface specifying the sequence of operations; and~~

wherein the processor is operable to execute the program instructions associated with the second program to request the first application to invoke execution of the [[specified]] sequence of operations ~~by the first application.~~

57. (Currently Amended) The system of claim 56,

wherein the processor is operable to execute the program instructions associated with the first application to execute the [[specified]] sequence of operations in response to said program instructions associated with the second program requesting the first application to invoke execution of the [[specified]] sequence of operations.

58. (Currently Amended) The system of claim 56,

wherein the set of operations includes one or more motion control operations, one or more machine vision operations, and one or more DAQ operations; and

wherein the [[specified sequence]] plurality of operations included in the sequence includes at least one motion control operation, at least one machine vision operation, and at least one DAQ operation.

59. (New) The method of claim 1, further comprising:

for each operation included in the sequence, the first application performing the operation, wherein said updating the displayed visual indication in response to including

the operation in the sequence comprises updating the visual indication to indicate a result of said performing the operation.

60. (New) The method of claim 1, further comprising:

for each operation included in the sequence, simulating the operation without performing the operation, wherein said updating the displayed visual indication in response to including the operation in the sequence comprises updating the visual indication to indicate a result of said simulating the operation.

61. (New) The method of claim 1, further comprising:

the first application simulating execution of the sequence in order to compute the results displayed in the visual indication.

62. (New) The method of claim 1,

wherein the first application provides an application programming interface (API) enabling external programs to request sequences created by the first application to be invoked for execution;

wherein the method further comprises the second program calling the API of the first application to request the first application to invoke execution of the sequence.

63. (New) The method of claim 1,

wherein the first application executes the sequence externally from the second program.

64. (New) The method of claim 1,

wherein the second program does not include program code to implement the sequence of operations.

65. (New) The method of claim 28,

wherein the plurality of operations included in the sequence includes a plurality of motion control operations;

wherein said interactively displaying the visual indication of results of performing the sequence while the sequence is being created comprises interactively displaying a preview visually indicating a spatial trajectory cumulatively performed by the plurality of motion control operations;

wherein, for each motion control operation included in the sequence, updating the visual indication in response to including the motion control operation in the sequence comprises updating the preview to visually indicate a change in the spatial trajectory, wherein the change in the spatial trajectory is caused by including the motion control operation in the sequence.